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COMMENTAIRES

# Perspectives on Canada's Past Record

**K. Weiermair**

The basic argument which we shall develop in this paper is the assertion that industrial efficiencies and excellence are not merely functions of "Good management, technology, cheap labour and access to large markets" but depend also critically on the availability of a highly skilled, motivated and disciplined blue collar labour force and that Canada's weak industrial performance may at least in part be due to reasons of inefficiencies in industrial-type training. After providing a brief overview regarding the structure and behaviour of industrial training in Canada in part I, we discuss the relevance and importance of industrial training for the achievement of industrial excellence in part II followed by a comparison of extent and modes of industrial-type training in West-Germany, Japan and Canada.

If one were to appropriately assess both scope and actual dimensions of past Canadian efforts in industrial training, one would have to investigate all routes of skill acquisition which typically have been open to an industrial firm in Canada, e.g. procurement of skilled labour through immigration, various forms of training within industry (apprenticeship, on-the-job), employment of trainees from federal or provincial manpower training programmes involving the private sector or hiring of graduates from community colleges. Observed secular changes in these routes of skill formation and acquisition would then have to be compared and interpreted vis-a-vis the broader changes which Canadian firms have faced on the input side with respect to labour markets and the education system and on the output side with respect to changes in markets, products and technologies. Given the lack of time series data with respect to training in industry and the multiple changes which have occurred over the part two decades both with respect to factor inputs and product markets, it will be impossible to conduct a rigorous econometric investigation on the structure and behaviour of industrial-type training. Rather, we will have to piece together fragmented evidence of changes in the behaviour of firm-internal labour markets guided by economic theory and some cross sectional data on training. On the basis of the large structural changes which have occurred in the economy over the past 25 years, we will discuss the changes decade by decade.

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Starting with the fifties, we experienced an economy with largely resource-based economic growth,[1] which was fuelled by large capital investments. During this period e.g. 1951-1961, manpower requirements for skilled workers (requiring training) grew at moderate levels, which was in line with the plateauing-off of the manufacturing sector[2] while demand for semi and unskilled manpower grew at a somewhat faster rate. Release of manpower from a declining agricultural sector and heavy immigration particularly in the category of blue-collar occupations provided adequate manpower resources for this pattern of economic growth. There was little pressure on the education system in terms of vocational education and training, on the other hand, highly qualified manpower were in short supply leading to a first big expansion of post-secondary education from 3% of the relative age population (18-24) in 1951 to 6.7% in 1961.[3]

The sixties were different both with respect to the pattern of economic growth and the development of manpower supplies. For the first time we also find training data which allow us to empirically account for adjustment processes in private sector training. Judging by both the absolute and relative changes in the distribution of output and employment across major industrial sectors and occupational groups between 1961 and 1971,[4] it appears that economic growth in this period was more evenly distributed across sectors in comparison to the fifties, implying a larger net increase in skilled manpower requirements.[5] Most of this large increase, however, occurred during the first half of the sixties.

How did the labour supply side adjust to these changes in output growth? As far as immigration of skilled workers is concerned, the sixties saw the beginning of a secular decline in the flow of skilled worker immigrants (both in absolute and relative numbers) which can be dated to the year 1967. Despite deliberate changes in immigration policies in 1962 and 1967 aimed at providing a better match between the flow of immigrants and the absorptive capacity of the economy, there was a full percentage decline in the proportion of skilled workers among immigrants over this period.[6]

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1 An account of Canadian patterns of economic growth can be found in the Annual Reviews and Special staff studies of the Economic Council, see also: T.A. WILSON and N.H. LITHWICK, *The Sources of Economic Growth*, Studies of the Royal Commission on Taxation, Ottawa, 1968, No. 24.

2 In terms of labour force changes the manufacturing sector declined over this period from a relative share of 32.9% in 1951 to 31% in 1961, for reference see: N.M. MELTZ, *Changes in the Occupational Composition of the Canadian Labour Force*, Ottawa, 1965.

3 Statistics Canada, *Education in Canada, A Statistical Review*, Cat. No. 81-229.

4 Economic Council, *Annual Reviews* and D. WALTERS, *Canadian Growth Revisited 1950-1967*, Staff Study No. 28, Ottawa, 1970.

5 Evidence is reported in:
N.M. MELTZ, *Ibid.*
S. OSTRY and M.A. ZAIDI, *Labour Economics in Canada*, Toronto, 1975, p. 19ff.
B. AHAMAD, *A Projection of Manpower Requirements by Occupation*, Department of Manpower and Immigration, Ottawa, 1969.

6 Department of Manpower and Immigration, *Immigrants and the Labour Market*, Ottawa, 1975, Table 5.

The latter developments reflected the overall tightness of labour markets in central and western Europe which traditionally had been the largest suppliers of skilled immigrants.

With respect to the formation of skills among native Canadians the following developments were of importance: starting from a position of having a labour force with relatively low educational attainment in comparison to other industrialized countries in 1961, Canada embarked on a major expansion of its entire post-secondary school system. The impetus for change came to a large extent from the advocates of the Human Capital School of Thought and the many empirical studies attesting large positive contributions of higher formal schooling to economic growth.[7] Throughout the sixties, university enrolment grew 2 1/2 times its 1961 size from 113.864 to 294.100 or from 6.7% to 15.4% of the respective age population. There was an equally rapid increase in post-secondary non-university enrolment from an insignificant 49.279 or 5% of the age population in 61 to 142.700 or 11.2% of the age population in 1971. Similarly, there were increases in upper secondary school enrolments both as a consequence of higher population and higher participation rates (which increased from 66.4% to 70%).[8] Recognizing the need for more vocational and technical education in the face of tight labour markets for skilled workers and a secular trend towards higher education, both provincial and federal governments began to mount a number of institutional programmes in the sixties with the goal to bridge the gap between various types of schooling and between formal schooling and training. The establishment of TVTA in 1960 and AOT in 1967 attest to such efforts through the federal government. Instead of, however, providing a true educational alternative to other forms of schooling with chances of long-term survival these arrangements in some way rather constituted short-run manpower policy instruments to alleviate temporary skill imbalances, provide retraining opportunities for marginal workers and above all alternatives for the unemployed. Most of the vocational training initiated through these cost sharing manpower programmes was institutional in nature with only 5-15% being carried out in the private sector.[9] The second and more important attempt of injecting technical and vocational skills into the Canadian labour force was the creation of community colleges under provincial aegis. According to the stated objectives of these institutions their original intent was to provide missing qualification links between high school and university graduates in terms of both level and (technical) skill content of perceived local manpower demand. As shown earlier enrolment growth in the community colleges during the sixties was high. This did not, however, imply that community colleges were able to

7 BECKER, B., *Human Capital*, New York, 1964; for a Canadian application see: BERTRAM, G.W., *The Contribution of Education to Economic Growth*, Economic Council, Staff Study No. 12, Ottawa, 1966.

8 Statistics Canada, *Education in Canada, A Statistical Review*, Cat. No. 81-229.

9 GUNDERSON, M., "Training in Canada: Progress and Problems", *International Journal of Social Economics*, Vol. 4, No. 1, 1976, pp. 2-23.

provide the quantity, quality and range of education and training necessary to close the skilled manpower gap of the sixties. The majority of the programmes started at that time were rather concerned with the education of technologists leading subsequently to substitutions between engineers and technologists.[10] Most production crafts and a good many service occupations were on the other hand not part of community college curricula at that time.

The situation in which a Canadian industrial firm found itself in the sixties with respect to firm-external labour supplies can therefore be summarized as follows: A secular rise in the proportion of post-secondary university and non-university graduates enabling firms to hire to a much greater extent skilled manpower from outside, particularly in the professional, managerial and technical skill categories, an initial increase in the flow of skilled immigrant workers followed by the beginning of a secular decline in the mid-sixties and tight skilled labour markets and rising labour mobility[11] as a result of high economic and slow labour force growth. Following economic theory, the firm's expected pattern of adjustment with respect to training can therefore be predicted as a general decline in training provided for by industry, which should have been more pronounced for general-type training as opposed to firm-specific training. And indeed, this is what had been generally found in various published and unpublished surveys on training in industry.[12] The percentage of company trainees in a given occupational group of employed personnel declined between 1963 and 1965 in all reported categories with the exception of apprentices who showed a small increase over this period. The latter category declined, however, sharply towards the end of the sixties. The observed declines were most pronounced for technicians and registered apprentices (e.g. very general types of training) and least for safety, orientation and managerial training (which can be termed more firm specific training). Overall the number of establishments reporting some form of training declined from 26% in 1966 to 22.9% in 1970. At that time, the sectors with the highest proportion of training were Finance, Insurance & Real Estate followed by Mining and Machinery Manufacturers. As far as remaining manufacturing industries were concerned only one firm in every five provided training. Another interesting result of these surveys was the disproportionate amount of male participation in training with only 16% of all trainees being female. Finally, over 50% of all training in the private sector was for safety, orientation and supervision which implies that the provision of industrial-type training (formation of production skills) must have been low by international standards,

10 SKOLNIK, M.S., and W.F. MCMULLEN, *An Inquiry into Substitution Between Engineers and Technologists*, Committee of the Presidents of Universities of Ontario, Toronto, 1970.

11 For figures and international comparisons see: S.T. NIELSON, *A Note on Labour Turnover Rates*, Department of Manpower and Immigration, Ottawa, 1975.

12 Statistics Canada, *Organized in Service Training in Four Major Industries*, 1963, 1965 and 1970.

Systems Research Group, *Study papers to assist in the formulation of a policy position on manpower training*, Toronto, 1972.

a point which will be taken up in a later section of the paper.[13] In retrospect, the decline of private sector training throughout the sixties can be viewed as the result of:

1) A policy approach in education which was biased towards providing higher levels of "general" schooling as the ultimate panacea to more economic growth to the detriment of other forms of education and training and which in its consequence led to an almost complete institutionalization of vocational and technical education.
2) Heavy reliance of firms on obtaining skilled workers through immigration despite visably changing immigration trends in the second part of the sixties and the beginning of an adjustment towards the employment and absorption of community college graduates.
3) General lack of private sector commitment to industrial training including apprenticeship which in part was due to the forementioned labour market barriers such as availability of immigrants, promises of the education system to respond to immediate employer needs (e.g. community colleges) and high labour turnover. In part it may also have been due to the inexistence and low priorities which were given to the promotion of Research and Development.[14]

The seventies are to a large extent a mere continuation of labour market events, trends and educational policies created in the sixties, with one possible exception: post-secondary university and non-university enrolment has started to taper-off reaching 14.2% and 12.6% of the respective age population by 1976-77.[15] At the same time, declines in the flow of skilled worker immigrants, in the amount of industrial-type training provided by industry and in the growth of new apprenticeship registrations have produced skilled worker shortages in a number of occupations,[16] which are likely to stay with us, unless deliberate policy changes in the area of manpower and education are initiated.

The expected continuance of present labour market imbalances suggests that employment- and more so education policies of the future will be of crucial importance. The choice is essentially between three different strategies:

a) A "Do-Nothing" approach. Such a hands-off approach with respect to both education and manpower will leave the present situation unchang-

13 Some comparisons of training data can be found in Tables 2 and 3.

14 Traditionally, economists have only established relationships between R & D and the employment of engineers and scientists; it appears, however, that skilled worker employment is higher in those industries where innovations require retooling or similar changes in the production process, see e.g., the difference in labour force composition between the Canadian and the American automotive industry: Department of Industry, Trade and Commerce, *The Automotive Industry in Canada*, Discussion paper, Ottawa, 1977.

15 Statistics Canada, *A Statistical Review for 1976-77*, Cat. No. 81-229.

16 See e.g., W. DODGE, *Skilled Labour Supply Imbalances: The Canadian Experience*, British North-American Committee, Ottawa, 1977.

ed for a considerable amount of time. Eventually, the employment and education system will adjust towards each other and qualification imbalances will disappear through the mechanism of the market. Skilled worker shortages will drive up wages and mobility even further so that at some point it may be profitable for firms to provide more training and obtain manpower from within the organization, similarly, longer periods of search unemployment will act to revise expectations and lead to an expansion in the supply of industrial trainees such as e.g., apprentices. At the same time, the education system will be under pressure to redress course and programme offerings, e.g., the recent trend of community colleges to offer close substitutes to university degrees will be reversed and there will be more vocational education and training in trades and other blue-collar skills. The advantage of this strategy is that it would require little government intervention; if anything, there should be a further decline in public sector involvement in such fields as unemployment insurance and educational finance in order to aid the market process. A distinct disadvantage of this strategy is the lagged response of the adjustment process and the inherent danger of costly cob-web cycles in the production of specific skills.

b) The second approach is to adjust the education system to changing manpower needs. Under this strategy education ministries would have to constantly try and achieve balances between various forms of schooling and training in line with the evolving manpower needs of the economy, e.g., governments would have to reallocate resources from universities to colleges or from one programme to another if particular labour market conditions warrant such intervention. This appears to be the undeclared education policy of a number of provincial governments in Canada. The key disadvantage of this approach is the muted and often ineffective leverage which Canadian governments have had upon educational institutions, the short-term character of education policy-making which proceeds with incremental changes and, furthermore, in Canada the tug-of-war between federal and provincial governments in matters of manpower and education. Its advantage, at least to some, is its avoidance of private sector involvement with the alleged effects of worker entrapment and exploitation.[17]

c) Finally, the last strategy would be to build a stable multi-level education system where short-term labour demand changes are handled by the employment sector rather than the education system. In this case, we find an education system which is highly structured and defined, which is more theory based and which changes only gradually over time instead of following every short-term labour market signal and which is supplemented by a fair amount of practical training and/or vocational

17 The argument over the prevalence of firm specific training modes in industrial-type training and its negative impact on worker mobility and earnings has remained a repeated topic in the literature on education and training policies, see e.g.: D. DONALDSON and B. EATON, "Firm-Specific Human Capital: A Shared Investment or Optimal Entrapment", *Canadian Journal of Economics*, IX, 3, pp. 462-472, 1976.

training at the enterprise level. Some European systems, notably West-Germany and to some extent Japan resemble this mode of adjustment pattern.

Canada's long-term strategies with respect to the development of its human resources have never been spelled out accurately or to any great detail just as we have never undertaken to articulate our industrial strategies. As was pointed out by the reviewers of national education policies at the OECD, we have chosen a very pragmatic approach with "the general tone of policy making on adaptations to short-term pressures, doing a little more of what already has been done and above all pressures for economies and reduction of expenditures."[18] Philosophically, in most provinces (with the possible exception of Quebec, Manitoba and B.C.) we have leaned towards strategy b), which for the future would suggest a further reduction in employer-centered forms of training and a stronger differentiation of educational curricula to accommodate labour market imbalances coupled with government controls in order to enforce educational objectives and criteria. Whether we will indeed follow this route will depend on how convinced we are about a complete institutionalization of learning including the acquisition of vocational and technical skills. Recent discussions and attempts at revamping on-the-job and apprenticeship training programmes could here very well signal changes in basic philosophies.

Among the many reasons why Canadian companies have not been more preoccupied with industrial training, appears to be the general lack of awareness of the potential benefits to be had from an internally trained and more fully skilled labour force. We therefore, turn our discussion to the relationship between industrial training and organizational performance.

There has been relatively little Canadian research on the scope and breadth of industrial training within the context of industrial organizations, rather attention has been focussed on specific features, aspects or techniques of industrial training, particularly in the field of supervisory training. In order to develop some broader insights into various aspects of social training returns from employer centered forms of industrial training we may, therefore, wish to consult foreign experience, e.g. that of West-Germany, where industrial training, particularly in the form of apprenticeship, occupies a more central place in both society and at the level of the enterprise. In the following, we present results of empirical research dealing with the interest of West-German firms in the training and development of the highly skilled blue collar labour force (e.g. "Facharbeiterschaft").[19] In

18 OECD, *Review of National Policies for Education, Canada*, Paris, 1976, pp. 98-103.

19 Most of this research was carried out by the Institut fuer angewandte Sozialforschung in Munich, see e.g.: F.WELTZ, G. SCHMIDT u. J. SASS, *Facharbeiter im Industriebetrieb*, Muenchen, 1974.

F. WELTZ, G. SCHMIDT u. K. KRIEGS, *Facharbeiter und berufliche Weiterbildung*, Berlin, 1973.

F. WELTZ u. G. SCHMIDT, *Arbeiter und beruflicher Aufstieg*, Muenchen, 1971.

J. SASS, W. SENGENBERGER u. F. WELTZ, *Weiterbildung als Problem betrieblicher Arbeitsmarktpolitik*, Muenchen, 1974.

West-Germany, the mainstream of industrial training is being carried out through a dual apprenticeship training system where trainees receive jointly theoretical training in public trade schools and on-the-job training at the work place, e.g. the theoretical base of the skill formation is institutionalized while the applied part of the vocational education is being carried out in the firm. Industrial training or apprenticeship training programmes last between 2-4 years and result in certification to a "Facharbeiter" (e.g. a highly skilled worker). This combination of theoretical foundation and firm-specific application of knowledge and skills produced a wide range of qualifications and skills which made such workers ideally suited for a wide range of tasks and thereby provided the firm with organizational flexibilities with respect to its adaptation to technological change. The flexibility of skilled workers enabled the firm to be adaptable to changing market conditions or to required changes in the design of production, e.g. the employment of highly skilled workers was in many West-German firms a condition for their ability to adjust quickly to changing markets and production conditions. Skilled workers furthermore, appeared to display a high level of cooperation and communication both among themselves and with others, notably design engineers, technicians or managers which in turn made for substantial savings in control and administration. The latter benefits were in part the result of social qualifications gained in the process of industrial training. For in the dual apprenticeship training mode the trainee went through a parallel process of occupational and organizational socialization which implied, as a behavioural outcome strong identification with the production process and its required behavioural attributes. In the case of skilled workers, West-German firms, therefore, were not only able to rely on their formal (vocational) qualifications but equally well on their social qualifications often simply summarized under the term industrial experience. The latter must have also included experiences of authority structure and their acceptance leading in the final outcome of training to a convergence of individual and organizational behaviour without additional organizational control. As such industrial training could have been said to include elements of management training applied to subordinates or to the lowest possible level of supervision. Not surprisingly, highly skilled workers in West-Germany display behaviour traits normally found among management: a high degree of self discipline, high work ethic, loyalty, achievement motivation and concern for quality, all values which became internalized through the process of on-the-job training. Although difficult to measure, the foregone description, confirmed by West-German management, amply demonstrates a number of positive linkages between industrial training and industrial excellence. One way of at least indirectly testing the validity of the forementioned would be to measure training benefits in terms of savings in control and administration, e.g. with a better motivated, disciplined and trained blue collar work force, we would expect firms to have larger spans of control and hence, we should find a smaller proportion of managers in the work force. Interestingly, those countries which are known to provide more firm-internal training such as West-Germany or Japan, also appear to employ fewer managers both in the economy as a whole and in specific industries (see Table 3 in the appendix).

High social returns to be expected from industrial-type training (via industrial excellence) must of course, suggest rather different education and

**TABLE 1**

**Indicators of Organization-External and Organization-Internal Labour Markets Japan, West-Germany and Canada for 1971 (if not otherwise stated)**

| | *Canada* | *West-Germany* | *Japan* |
|---|---|---|---|
| Labour Force | 8.7 mill. | 26.7 mill. | 52.8 mill. (1970) |
| % in Secondary Manuf. | 27% | 50.3% | 35.7% |
| Post-secondary enrolment in % of respective age group | 26.6% | 27.18% | 25.02% |
| Secondary enrolment in trade schools in % of respective age group | 27.4% | 49.5% | 41% (1970) |
| Apprentices as % of labour force | .6% | 6% | n.a. (approx. 6%) |
| Government manpower training in % of labour force | | | |
| a) institutional | 3.7% | | |
| b) on-the-job | .28% | { 1% | { .5% |
| % of firms providing training within industry | 22.3% (1969-70) | 45% (1970) | 50% (1975) |
| Number of people involved in training in industry | 486.000 | 2.3 mill. | n.a. |
| Type and mode of training | Mainly supervisory, orientation and safety followed by trade skills, main mode classroom, instruction and financial assistance, little emphasis on on-the-job training | Wide coverage (over 560 apprenticeable occupations), main mode is dual-type apprenticeship | Wide variety of vocational training options both in terms of level and supplier organization (public vocational training, OJT operated by the government, vocational education in miscellaneous schools, OJT) |

| | *Canada* | *West-Germany* | *Japan* |
|---|---|---|---|
| Key Characteristics of employment system | Short-term employment mode, very mobile labour force, low loyalty formation<br>Adversary industrial relations system<br>Low profile in training little scope for firm-internal labour mobility | Long-term employment and high loyalty formation key features, some change in the 70's low labour mobility cooperative relationship in industrial relations with changes expected in the seventies | Long term employment mode, high loyalty, strong cooperation between management and enterprise union<br>First changes due to labour shortage in the making |
| Basic philosophies and concepts in education and manpower policies | Education seen as guarantor to labour market efficiency<br>All manpower adjustments should take place in firm-external labour markets<br>Education should be provided in schools<br>Recent departures in concepts due to present situation of high unemployment and high job vacancies | Long-term policies with respect to education<br>Private sector adjusts to change through training<br>Suggested reforms to control and finance industrial training through government | Long-term policies both in education and manpower, high flexibility of firm-internal labour markets allowing full adjustment to change<br>First attempts to reform employment and training system in the face of continued skilled worker shortage |

Statistical Sources:

West-Germany: Statistisches Bundesamt, *Wiesbaden Kommission zur Finanzierung der ausserschulischen Bildung*, Bielefeld, 1974.
Canada: *Statistics Canada*, Department of Manpower and Immigration.
Japon: OECD, *Manpower Policy in Japan*, Paris, 1973, Ministry of Labour, various parts.

manpower policies than what we have pursued in Canada in the past. If the arguments are correct, they should also throw serious doubt on the validity of traditional research results regarding international productivity differences. A good many of these studies use formal schooling as an observable proxy for the human capital intensity of the economy or a particular sector, which subsequently, is compared to the output of the economy or the specific sector.[20] From the observed relationship between factor input and product output conclusions are derived about the productivity of schooling and the work force. With industrial training being both a complement and a substitute to formal schooling and without having its effects assessed accurately, we contend that the results of these studies are highly ambiguous. E.g., a highly skilled West-German worker with only 8 years of formal schooling and 4 years of on-the-job training may be more productive than our community college graduate doing the same job. Or expressed in aggregate terms it may very well be possible, that some industrial nations have now become overeducated but underdisciplined and underskilled.[21] Before drawing policy conclusions at this stage, we will provide in III a few broad comparisons of private versus public sector training between West-Germany, Canada and Japan.

The above discussion on training effects in the West-German setting has not only shown that industrial training can be very important but also that it is mainly qualitative factors and their variation that matter. This is even more obvious when we include Japan where the process of skill formation at the firm level is achieved in an even less formalized way.[22] An understanding of and appropriate international comparisons on cause/effect (input/output-type) relationships in training should therefore not be centered on narrowly defined proxies of schooling or traditional production functions but rather proceed in terms of evaluating and comparing the economic rationale of the entire employment systems in question. In Table 1 below, we have tried to depict major characteristics of organization-external and internal labour markets and their relationship to industrial training of the three countries in question. This overview should enable us to place industrial-type training, its dimensions, role and effectiveness in the proper context of the wider socio-economic systems in which it is embedded, e.g. employing organizations and the labour market. At one extreme we have the Canadian education and employment system where there is little

20 DENISON, F., *Why Growth Rates Differ*, Brookings Institute, Washington, 1967.

21 For the first time since the beginning of the human capital revolution in 1962 this possibility is now being seriously raised, for some reference see: R.B. FREEMAN, *The Overeducated American*, New York, 1976.

I. BERG, *Education and Jobs: The Great Training Robbery*, New York, 1970.

22 There have been a number of books published dealing with the Japanese employment relationship, see e.g.: COLE, *Japanese Blue-Collar, The Changing Tradition*, University of California Press, 1971.

R. DORE, *British Factory-Japanese Factory: The Origins of National Diversity in Industrial Relations*, University of California Press, 1973.

scope for manpower development and training in the private sector, because:

a) human investments do not provide sufficient pay-offs to the firm due to high labour turnover
b) schooling and training are much more considered a function of educational institutions which attempt to maximize the provision of "general" type schooling (which in turn increases mobility thereby cutting down training within the firm even further)
c) fragmentation and jurisdictional boundaries of labour unions constrain the firms' abilities to redeploy or re-allocate (and hence train) firm-internal manpower as a consequence of changes in product markets
d) there is no provision in the education system to encourage vocational specialization at an early age, e.g. for Canadian youth apprenticeship comes as an afterthought or residual at age 23 when all other schooling and employment alternatives have proven unsuccessful.

Not surprisingly, most of the manpower adjustment must be carried by the government as evidenced by the high proportion of the Canadian labour force, which finds itself in public training programmes.

At the other extreme, in the case of Japan, we observe a long-term employment system which enables the employer to invest heavily in manpower development because of:

a) low turnover
b) great flexibility and mobility of firm-internal labour markets and
c) little government control of government regulation prescribing extent and mode of industrial training, e.g. most training can be tailored to the particular needs of the organization.

The latter aspect has caused some misunderstanding and confusion of Japanese training systems, which to a European or North-American often appear of low profile, erratic and unformulized in nature. However, as was also pointed out by the review of Japanese manpower policy through the OECD, the analysis changes if training is viewed within the context of the Japanese employment system: "May be the conclusion can be drawn that the special features of the Japanese employment relationship — the whole system of consultation, social participation, informal training, incentives and motivation which exist in the individual enterprises — make an ad hoc process of skill acquisition highly effective."[23]

The West-German employment system appears to fall somewhere in between these two extremes. While in the early fifties, it may have resembled more the Japanese employment mode of long-term commitment, high loyalty and very firm-specific industrial training, it has now come closer to the North-American employment system. Skilled labour shortages in the sixties have increased labour mobility and have thereby broken up firm-internal labour markets with the consequence of lowering the profitability

23 OECD, *Manpower Policy in Japan*, Paris, 1973, quoted in W. GALENSON and D. ODAKA, "The Japanese Labour Market", *Asia's New Giant: How the Japanese Economy Works*, Washington, Brookings Institution, 1976, p. 624.

of firm-internal human investments. In addition, labour unions and the government have managed to increase control over industrial training in an attempt to increase the "general" content of training and/or reduce the firm-specific aspects of it. As a consequence, there is now a tendency towards more institutionalization and a need to finance enterprise training publicly. Even though the importance of traditional apprenticeship training will decline somewhat in the future and even though unions and government now co-determine content and financing of training, it will continue to serve the West-German economy for the next years to come.

Given our present situation in Canada and in the light of the experience with industrial training in other jurisdictions, the following policy conclusions appears to emerge:

1) It is highly unlikely that Canada will want to or will be able to move towards a long-term employment mode for blue-collar workers given our basic institutions and economic, social and educational philosophies.
2) Although long-term trends in both Japan and West-Germany can be expected to result in labour market outcomes similar to Canada, thereby alleviating some of the competitive pressures in the more distant future, there remains our short-run problem of finding adequate skilled worker supplies to improve our competitive position within the next couple of years.
3) We, therefore, can choose among the two following strategies:
   a) promote more manpower development and training at the enterprise level through industry or government involvement and financing or
   b) monitor the education system more closely so that the whole range of skills pertinent to industry (and including basic social and life-skills traditionally taught on-the-job) become represented.

Whatever form of adjustment we wish to achieve, it will require some thinking and long-term vision as to where we want to be 10 or 20 years hence, for comparative advantages are not hereditary (contrary to static orthodox economic thinking) but something which can and is constantly created. This in turn will require a much stronger goal orientation of our entire education system in comparison to what we have in place now.